

Brentwood UFSD

Smart Schools Bond Act Preliminary Investment Plan

Phase 1 - October 2016

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Smart Schools Bond

The Smart Schools Bond Act was passed in the 2014-15 Enacted State Budget and approved by the voters in a statewide referendum held during the 2014 General Election on Tuesday, November 4, 2014. The Smart Schools Bond Act (SSBA) authorized the issuance of \$2 billion of general obligation bonds to finance improved educational technology and infrastructure to improve learning and opportunities for students throughout the State. The SSBA requires that a Review Board review and approve districts' Smart Schools Investment Plans before any funds may be made available for the program.

Plan Overview

The Brentwood UFSD was allocated \$21,194,780 as part of the SSBA. In accordance with the Technology Plan adopted by the District the goal of Phase 1 is to utilize the funds to enhance security and communication throughout the District, as well as upgrade the network to meet the need of the growing number of devices connected to the network and the enriched multi-media content displayed.

Preconditions

As a precondition to utilizing the funds, the District has ensured that there is adequate internet bandwidth in excess of 100 Mbps per 1,000 students, as required by the SSBA, to sustain the increased demand on the network. This was accomplished by installing a redundant 2 GB internet connection.

Additionally, the proposed plan aligns closely with the current three year Technology Plan, approved and on file with the NY State Department of Education.

Plan Details

As network usage increases and more applications become mission critical, it is necessary to increase bandwidth to the edge switches that service user devices. At this time there are 48-port edge switches with each port running at 1 gigabyte (GB) and all 48 ports sharing a 1 GB uplink. When installed this technology was state-of-the-art; however, as end user devices communicate faster and as interactive web sites pump enriched multi-media rich content, it can create a network bandwidth bottleneck at each switch resulting in poor performance from the user perspective. This upgrade will give Brentwood a complete overhaul of the network. It will replace all core routers in the high school network operations center (NOC) as well as the NOC in the administration building. It will increase by a factor of 10, the uplink capacity mentioned above from 1 GB to 10 GB and will provide a 40 GB backbone throughout the network.

Additionally, the wireless network needs to be upgraded. It currently suffers from coverage issues as well as end of life issues. The upgrade will address all wireless switches and access points. It will allow coverage in areas that currently are underserved as well as provide better security and the ability to handle newer devices. All of this is critical as we prepare for more devices to be added to the network in the future.

The current security system is analog based as well as proprietary in nature. Through collaborative efforts of the Information Technology and Security Departments, we have implemented a new open sourced and standards based security system. We have worked closely together and begun this process by installing new cameras in high profile locations. Phase 1 will allow us to finish

upgrading the existing video camera hardware from the existing analog cameras to IP cameras with advanced analytics and motion detection capabilities. The cameras will give the District far superior resolution as compared to the old cameras. Also, the video storage will no longer run on individual DVR boxes in each location. Instead, it will be stored centrally on storage area networks (SAN) and we will no longer have to maintain up to 100 individual units in buildings. Additionally, the existing DVR's are running Windows XP and that operating system is no longer supported by Microsoft.

Furthermore, the SSBA will allow for the upgrading of the existing card access hardware to the latest HID iClass card readers and control panels. This card access hardware will be integrated into the security system platform. Card access privileges will be tied to the network login so that in the future, as we are notified to remove or inactivate people within the network, their card access abilities will automatically be revoked. No longer will there be a need to maintain multiple databases.

Intrusion detection infrastructure (alarm system, control panels, key pads, and motion sensors/door contacts) will be upgraded in specific areas. This hardware will be intergraded into the security platform for single interface management and interaction with the entire security infrastructure.

HVAC equipment and temperature alarm hardware will be installed in locations where temperature status needs to be maintained/monitored. This hardware will be integrated into the security platform for alarm notification and real-time status of all areas required.

In 2016, you cannot address security unless you address communications to staff, students and the community. In the event of an emergency, it is critical that people are informed and information can flow in real-time. To that end, we must address the existing speaker/PA system, as well as community notification. The speaker/PA system will be integrated into the security network. This gives complete flexibility within the buildings. It will allow each building to operate independently for things such as bell schedules and building specific announcements but, it will allow all buildings, or subsets of buildings, to be part of the global security notification system. With this integration, the School Safety Department can both monitor as well as initiate things such as remote lockdowns and can address all parties involved. The system also allows flexibility for automated announcements as well as implementing step-by-step plans for different emergency types. This system will be fully IP based so it can be monitored for outages on the network using standard network based tools. It can also be adjusted and addressed using current internet browsers. In addition, an electronic messaging board will be installed outside of the administration building which will provide a mechanism to inform the community, in real-time, in the event of an emergency situation.

The SSBA will allow increased performance of the network, address security concerns through video, facilities access and intrusion detection and provide greater communication for all district stakeholders. Finally, it will also allow us to tie everything together in one management platform while allowing building based flexibility where appropriate.

Estimated Allocation of Funds

Category	Allocation
School Connectivity	\$6,188,859
High Tech Security	\$5,065,362
Unallocated	\$9,940,560
Total	\$21,194,780

If you have questions or would like more information contact Stacy O'Connor, Assistant Superintendent for Finance and Operations, at 631-434-2311 or soconnor@bufsd.org.